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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,459	11/07/2005	John H. Redding	21046-00048-US1	6165

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EXAMINER
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BOECKMANN, JASON J

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/535,459

Applicant(s)

REDDING, JOHN H.

Examiner

Jason J. Boeckmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 7, 9, 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 10, 11 and 17 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-17 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/19/2005
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- I. Species I, directed towards figures 1-7b and 9a and 9b.
- II. Species II, directed towards figures 8a-8c and 10a-12b.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

Species I, claims 2-6, 8, 10 and 11  
Species II, claims 7, 9 and 12-16

The following claim(s) are generic: 1 and 17

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The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Species I lacks the general inventive concept of a static swirl generator whereas Species II lacks the general inventive concept of a propeller.

During a telephone conversation with Brian Hairston on 10/26/2006 a provisional election was made without traverse to prosecute the invention of Species I, claim 1, 2-6, 8, 10 and 11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7, 9 and 12-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8, 10, 11 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Dively (3,497,185).

Dively shows a fluid jet generating apparatus comprising a swirling flow generation means, the apparatus further comprising a duct (20) and a propeller (16) mounted for co-axial rotation within the duct.

Regarding claim 8, the duct includes a flared nozzle (24).

Regarding claims 10 and 11, the apparatus further comprises a flow intake restriction means (plates 26 and 28) to vary the amount of inflow to the duct.

Regarding claim 17, the apparatus of Dively could be used for cleaning.

Claims 1-3, 10 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Boggs (3,570,508).

Boggs shows a fluid jet generating apparatus comprising a swirling flow generation means, the apparatus further comprising a duct (18) and a propeller (34) mounted for co-axial rotation within the duct.

Regarding claim 6, the nose cone of the propeller is conical (figure 1).

Regarding claims 10, the apparatus further comprises a flow intake restriction means (the pipes 42, 44 and the body 16) to vary the amount of inflow to the duct.

Regarding claim 17, the apparatus of Boggs could be used for cleaning.

Claims 1-4, 6, 10 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirkwood et al (US 2002/0049012).

Kirkwood et al shows a fluid jet generating apparatus comprising a swirling flow generation means, the apparatus further comprising a duct (40) and a propeller (50) mounted for co-axial rotation within the duct.

Regarding claim 4, a disc (44) is mounted in front of the propeller to cut out flow through the central part of the propeller.

Regarding claim 6, the nose cone of the propeller is conical (figure 1).

Regarding claims 10, the apparatus further comprises a flow intake restriction means (the housing 2) to vary the amount of inflow to the duct.

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Regarding claim 17, the apparatus of Boggs could be used for dredging, scouring, excavating or cleaning,

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dively (3,497,185) in view of Dillon (US 2003/0222161).

Dively shows all aspects of the applicant's invention as in the rejection of claim 1 above, but does not specifically disclose that the nose cone is rounded. However, Dillon shows a ducted propeller including a rounded nose cone. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to put a

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rounded nose cone on the device of Dively in order to make the propeller be more aerodynamic and swirl the fluid more efficiently.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dively (3,497,185) in view of Kirkwood et al (US 2002/0049012).

Dively shows all aspects of the applicant's invention as in the rejection of claim 1 above, but does not specifically disclose that the nose cone is conical. However, Kirkwood et al shows a ducted propeller including a conical nose cone. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to put a conical nose cone on the device of Dively in order to make the propeller be more aerodynamic and swirl the fluid more efficiently.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkwood et al (US 2002/0049012). in view of Dillon (US 2003/0222161).

Kirkwood et al shows all aspects of the applicant's invention as in the rejection of claim 1 above, but does not specifically disclose that the nose cone is rounded. However, Dillon shows a ducted propeller including a rounded nose cone. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to put a rounded nose cone on the device of Kirkwood et al in order to make the propeller be more aerodynamic and swirl the fluid more efficiently.

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### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Becker (1,095,447), Streander (2,054,395), Murray (3,601,316), McCauley (3,952,716), McMaster et al (4,838,703) and Coup et al (4,927,324) show at least all aspects of claims 1-3 of the applicant's invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571) 272-2708. The examiner can normally be reached on 7:30 - 5:00 m-f, first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSB 11/13/06

  
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